

Application No. 09/996,951

2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- O.W.
to
Entr
7/11/03
9-9-03
- 1 21. (currently amended) A method of achieving a resonant frequency of
2 acoustic resonators comprising:
3 fabricating a plurality of said acoustic resonators on a basis of
4 forming each said acoustic resonator to include an electrode-piezoelectric
5 stack in which layer dimensions are selected to achieve an intended
6 operational resonant frequency, said intended operational resonant
7 frequency being a target final operational resonant frequency, each said
8 electrode-piezoelectric stack having conductive electrode layers;
9 determining whether said acoustic resonators have current
10 resonant frequencies that are within an acceptable margin of error of said
11 intended operational resonant frequency; and
12 for occasions in which said current resonant frequencies are
13 outside of said acceptable margin of error, exposing said acoustic resonators
14 to a controlled gaseous environment in which at least one said electrode layer
15 is oxidized, including intentionally regulating said controlled gaseous
16 environment on a basis of providing each said acoustic resonator with a final
17 operational resonant frequency that is within said margin of error of said
18 intended operational resonant frequency;
19 wherein said exposing includes regulating said temperature and
20 oxygen content to provide a downward adjustment of said resonant
21 frequencies in a controlled manner, said exposing further including controlling
22 flow rates of gases, including oxygen.
- 1 22. (currently amended) The method of claim 21 wherein said exposing
2 includes controlling said temperature and controlling said oxygen content
3 within said controlled gaseous environment based on establishing said final
4 operational resonant frequencies within said margin of error of said intended
5 operational resonant frequency.

Application No. 09/996,951

3

1 23-25. (canceled)

1 26. (previously presented) The method of claim 21 wherein said exposing
2 occurs at a temperature not exceeding 215°C.

1 27. (new) A method of achieving a resonant frequency of acoustic
2 resonators comprising:
3 fabricating a plurality of said acoustic resonators on a basis of
4 forming each said acoustic resonator to include an electrode-piezoelectric
5 stack in which layer dimensions are selected to achieve an intended
6 operational resonant frequency, said intended operational resonant
7 frequency being a target final operational resonant frequency, each said
8 electrode-piezoelectric stack having conductive electrode layers;
9 determining whether said acoustic resonators have current
10 resonant frequencies that are within an acceptable margin of error of said
11 intended operational resonant frequency; and
12 for occasions in which said current resonant frequencies are
13 outside of said acceptable margin of error, exposing said acoustic resonators
14 to a controlled gaseous environment in which at least one said electrode layer
15 is oxidized, including intentionally regulating said controlled gaseous
16 environment on a basis of providing each said acoustic resonator with a final
17 operational resonant frequency that is within said margin of error of said
18 intended operational resonant frequency;
19 wherein said exposing includes regulating said temperature and
20 oxygen content to provide a downward adjustment of said resonant
21 frequencies in a controlled manner, said exposing further including controlling
22 flow rates of gases, including oxygen, said exposing occurring in a Rapid
23 Thermal Annealer (RTA).

1 28. (new) The method of claim 27 wherein said exposing includes controlling
2 said temperature and controlling said oxygen content within said controlled
3 gaseous environment based on establishing said final operational resonant
4 frequencies within said margin of error of said intended operational resonant
5 frequency.